

REMARKS

Claims 1-5, 7-8, 14, 19-26 and 28-29 are present in this application. This Second Preliminary Amendment amends only claim 1.

In the Advisory Action dated August 19, 2003, in U.S. Application Serial Number 10/053,055, the parent to this continuation application, the Examiner stated that adding the word "only" in claim 1 with respect to claim 1 would further limit the scope of the inlet, and was therefore a new issue. Applicant has filed the present continuation application such that the Examiner will now consider this claim limitation.

In the Advisory Action, the Examiner states that, based on a cursory review of the application that the limitation is a new matter because the specification does not appear to describe an inlet capable of introducing solid, partially expanded resin. The Examiner goes on to state that the applicants have argued that the disclosure discusses steam chest molding and that it is well known that steam chest molding involves solid, not liquid injects, but that this argument is moot because the applicants do not claim steam chest molding. By the present Preliminary Amendment, applicants amend claim 1 to include the limitation of a steam chest mold (by limiting the claims to male and female steam chest mold halves. This argument is therefore no longer moot.

The text and drawings of D'Hooren (the primary cited reference in the rejection of claim 1 in the parent application) specifically state that the patent applies to the thermoplastic injection-compression molding process. In D'Hooren, the resin must be in a liquid state during injection. See, for example, col. 6, lines 42-44 and claim 1, last paragraph. The tooling design features of

an injection mold are unique to an injection mold process. The tooling design features of a steam chest mold are unique to the steam chest molding process.

As is very well known to one skilled in the art of steam chest molding, the steam chest molding process does not require injection of the material into the mold cavity in a liquid state, but rather, in the form of solid expanded thermoplastic beads. The mechanics and design of injection equipment required, to accomplish introduction of thermoplastic beads, and specifically the inlet, are not common to an inlet for injection molding. Injecting solid expanded bead material into a steam chest mold is a technology uniquely developed and completely unrelated to that of injection molding. Basically, the thermoplastic injection molding process typically involves the melting of the plastic resin in a cylindrical screw barrel using applied heat and the friction of the turning screw to melt the resin. As the screw turns, the resin reaches this molten liquid state and is forced into the forward end of the screw barrel. The screw then retracts leaving the melt ahead of it in the barrel. The screw is then moved forward in the barrel forcing the melt through the tool nozzle, and into the mold cavity under great pressure. The melt then cools and solidifies in the mold cavity and the molded part is ejected as the mold opens. The inlet is specifically designed for this purpose. In the case of steam chest molding, the resin is not melted, there is no screw, a sophisticated mechanical nozzle is pneumatically operated, there is no gate, and solid bead material is forced into the mold at a much lower pressure. One skilled in the art of steam chest molding and injection molding would clearly be aware of these features. In short, D'Hooren applies to a different molding process than that of the present application.

The Examiner goes on to state that the applicant's specification does not describe the inlet

in such a way to differentiate it structurally from the inlet of D'Hooren and that the inlet taught by the Applicant is capable of injecting a solid or a liquid. The Examiner states that without a structure taught and claimed that is necessary for solid injection, the inlet of D'Hooren reads on the claimed inlet. It is asserted that appropriate structure is taught and claimed. It is very well known to one skilled in the art precisely what steam chest molding is and the apparatus required to perform the process. For example, as cited and incorporated by reference into the present specification, in 1984, U.S. Patent No. 4,456,443 (Daines) described the steam chest molding process in general. The specification of the present application is directed specifically to steam chest molding. Again, steam chest molding and its differences as compared to injection molding, including the inlets required for each, are very well known to those skilled in the art.

An Affidavit Under 37 C.F.R. § 1.132 of Paul Sandefer (an inventor of the present application), enclosed herewith, states that one skilled in the art of steam chest molding would fully understand that an inlet for a steam chest molding apparatus for introducing solid, partially expanded resin is very well known in the art. As one skilled in the art of steam chest molding, Mr. Sandefer also states that an inlet that is capable of introducing solid, partially expanded resin would not be capable of introducing resins in liquid form as in, for example, injection molding. Finally, Mr. Sandefer stated that a person skilled in the art of steam chest molding would interpret an inlet that is of a configuration capable of introducing only solid, partially expanded resin would be of a well known configuration and that a person skilled in the art would understand all the requirements of such an inlet to be of a well known configuration for such an inlet for steam chest molding apparatus.

Application No. 10/760,643  
Second Preliminary Amendment Dated February 13, 2004

Based on claim 1, as amended, it is respectfully requested that the Examiner pass claim 1 and its dependent claims, claims 2-5, 7-8, 14, 19-26 and 28-29 to allowance and issuance.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for initial examination and allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully Submitted,

CAESAR, RIVISE, BERNSTEIN,  
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By: 

February 13, 2004

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Enclosure: Affidavit